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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,220

06/16/2006

Atsushi Miyazaki

JFE-06-1129

7655

35811 7590 03/19/2008  
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EXAMINER

FOGARTY, CAITLIN ANNE

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

03/19/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,220	<b>Applicant(s)</b> MIYAZAKI ET AL.	
	<b>Examiner</b> CAITLIN FOGARTY	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-33 is/are pending in the application.
- 4a) Of the above claim(s) 18, 19 and 22-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-17, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/16/2006, 7/12/2007</u> .                                    | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election Acknowledgement***

1. Applicant's election without traverse of Group I (Claims 13-22) and Species C (Claim 20) in the reply filed on December 10, 2007 is acknowledged.

### ***Status of Claims***

2. Claims 13 – 17, 20, and 21 are pending and presented for this examination. Claims 1 – 12 have been cancelled and claims 18 – 19 and 22 – 33 have been withdrawn from consideration.

### ***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

4. The information disclosure statements (IDSs) were submitted on June 16, 2006 and July 12, 2007, respectively. These submissions are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner. Please refer to applicant's copy of form PTO-1449 submitted herewith.

### ***Claim Objections***

5. Claim 14 is objected to because of the following informalities: line 2 contains the typographical error "grou" which should be changed to "group." Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-146484 (hereafter JP '484-see English machine translation).

With respect to instant claims 13 and 15 the abstract and Steels 1, 6, 14, 19, and 20 of Table 1 of JP '484 disclose specific examples of ferritic Cr-contained steels that are within the ranges recited in claims 13 and 15. Therefore, the compositions in claims 13 and 15 are anticipated because "[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated' if one of them is in the prior art." *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (citing *In re Petering*, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962)). See MPEP 2131.03 I. JP '484 does not specifically disclose the amount of precipitated W, however the independent instant claim 13 recited that the precipitated W is about 0.1% or less in percent by mass which includes 0%. Also, JP '484 does not specifically teach the average thermal expansion coefficient between 20°C and 800°C, however this characteristic would be inherent in the steels of JP '484 because they have compositions that are within the ranges recited in claims 13 and 15. See MPEP 2112 IV and V.

8. Claims 13 – 16, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyazaki et al. (US 2002/0098107).

Regarding instant claims 13 – 16, 20, and 21, the abstract, paragraph [0009], and Steels 22, 23, and 25 of Miyazaki et al. disclose specific examples of Cr-contained steels that are within the ranges recited in the instant claims. See MPEP 2131.03 I. The steels taught by Miyazaki et al. are ferritic because paragraph [0009] discloses that the steels are produced under the same conditions as conventional steels such as type 429 which is a ferritic steel. Miyazaki et al. do not specifically disclose the amount of precipitated W, however the independent instant claim 13 recited that the precipitated W is about 0.1% or less in percent by mass which includes 0%. In addition, it would be expected that the steels of Miyazaki et al. would have 0.1% or less in percent by mass precipitated W because the steel of Miyazaki et al. is made using a similar method as that of the instant invention (see paragraph [0070] of Miyazaki et al.) Also, Miyazaki et al. do not specifically disclose the average thermal expansion coefficient between 20°C and 800°C, however this characteristic would be inherent in the steels of Miyazaki et al. because they have compositions that are within the ranges recited in claims 13 – 16, 20 and 21. See MPEP 2112 IV and V.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki et al. (US 2002/0098107).

Miyazaki et al. is applied to independent claim 13 as discussed above.

In regards to instant claim 17, paragraphs [0009], [0011], and [0012] of Miyazaki et al. teach a Cr-contained steel with an overlapping composition as seen in the table below.

Element	Instant Claim 17 (mass%)	Miyazaki et al. (mass%)	Overlapping Range (mass%)
C	≤ 0.03	0.001 – 0.020	0.001 – 0.020
Mn	≤ 5.0	< 2.00	< 2.00
Cr	6 – 40	12.0 – 16.0	12.0 – 16.0
N	≤ 0.03	< 0.020	< 0.020
Si	≤ 5	0.10 – 0.50	0.10 – 0.50
W	2.05 – 6.0	0.5 – 5.00	2.05 – 5.00
B	≤ 0.01	0.0005 – 0.0100	0.0005 – 0.0100
Mg	≤ 0.01	0	0
Fe + impurities	Balance	Balance	Balance

Since the claimed compositional ranges of claim 17 either overlap or are within the ranges disclosed by Miyazaki et al., a prima facie case of obviousness exists. See MPEP 2144.05. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed ferritic Cr-contained steel composition

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from the ferritic Cr-contained steel composition disclosed by Miyazaki et al. because Miyazaki et al. teach the same utility (i.e. exhaust pipes of automobiles) in the whole disclosed range.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN FOGARTY whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art  
Unit 1793

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